

REMARKS

Claims 1-9, 20, 21, 23 and 24, as amended, remain herein. Claims 23 and 24 are new. Claims 10-18 remain herein but are withdrawn from consideration.

1. Claims 1-3 were rejected under 35 U.S.C. § 102(b) or 103(a) over Diana U.S. Patent 5,936,041.

Claim 1 claims, in part, a modified propylene based polymer obtained by modifying at least one propylene based polymer with a radical initiator and a compound containing in the same molecule an ethylenic double bond and a polar group, the modified propylene based polymer satisfying the following (1) to (4):

(1) the content of polar group moieties resulting from a compound containing in the same molecule thereof an ethylenic double bond and a polar group is from 0.10 to 0.30 mmol/g,

(2) the intrinsic viscosity ($[\eta]A$) measured at 135°C in tetralin is from 0.8 to 3.0 dl/g,

(3) the molecular weight distribution (M_w/M_n) is more than 2.5, and

(4) the content of components in the modified propylene based polymer having a molecular weight (M_w) of 10,000 or less is 5% or less by weight.

Diana describes a nitrogen-containing polymeric material that is the product of a reaction between an amine compound and a fractionated polymer functionalized to introduce mono- or dicarboxylic acid producing groups into the fractionated polymer.

Diana does not disclose or suggest the elements of applicants' claimed invention. Applicants' claim 1 requires that the modified polymer be formed with a radical initiator.

However, Diana does not disclose or suggest any radical initiator, and therefore does not anticipate or render obvious applicants' claimed invention.

Applicants' claim 1 additionally recites that the modified propylene based polymer has an intrinsic viscosity measured at 135°C in tetralin from 0.8 to 2.0 dl/g. The Office Action acknowledges that Diana does not disclose this intrinsic viscosity, but presumes that the different, disclosed viscosity of 0.025 to 0.6 dl/g would increase to the claimed viscosity range after grafting with unsaturated carboxylic acid because of the additional polar functional group, and therefore the claimed element is inherently present in Diana. However, the Office Action has cited to no reference or provided any other support for this assumption. Cf. M.P.E.P. § 2144.03. Instead, the Office Action attempts, without basis, to shift the burden to applicants. Diana discloses no value for viscosity in applicants' claimed range. There is no support on the record for the proposition that applicants' claimed viscosity range would necessarily result from practicing the teachings of Diana. Therefore, Diana does not disclose applicants' claimed viscosity range and does not anticipate or render obvious applicants' claim 1.

The Office Action also assumes, without support, that Diana inherently discloses that the content of polar group moieties is from 0.10 to 0.30 mmol/g, and that the content of components in the modified propylene based polymer having a molecular weight of 10,000 or less is 5% or less by weight. This erroneous conclusion falsely assumes that applicants and Diana use substantially identical modified α -olefin based polymers. However, as demonstrated above, the Office Action fails to establish that that applicants' claimed polymers and the polymers in Diana are the same. Furthermore, there is no disclosure or suggestion in Diana of applicants' claimed content of polar group moieties and content of a polymer have a molecular weight of 10,000 or

less of 5 weight % or less. To the contrary, Diana discloses that there should be less than about 10 mole % (preferably 5 mole % and more preferably 3 mole %) of polymer chains having a molecular weight of less than 500. According to Diana, the polymer is fractionated to remove low molecular weight polymers. See Diana, col. 7, lines 33-37 (“In accordance with this invention, low molecular weight polymers are preferably removed by fractionation (e.g., stripping or distillation) to obtain fractionated polymers having less than 10 mole % of deeper cut polymer chains, as described herein.”) However, even after fractionation in Diana, there is no disclosure or suggestion that the fractionated polymer includes 5 weight % or less of polymers having a molecular weight of 10,000 or less. Instead, Diana discloses 10 mole % or less of polymer having a molecular weight of 500 or less. Diana does not teach a particular mole % of polymer having a molecular weight of 500 or less. Nor does Diana inherently anticipate applicants’ claimed content of polymers having a molecular weight of 10,000 or less being 5 weight %.

Because Diana fails to disclose or suggest any of (a) the claimed radical initiator, (b) the claimed viscosity of 0.8 to 3.0 dl/g, (c) content of polar group moieties of 0.10 to 0.30 mmol/g, and (d) content of polymer having a molecular weight of 10,000 or less of 5% or less by weight, Diana does not anticipate or render obvious the claimed invention. Applicants respectfully request that this rejection be withdrawn and that claims 1-3 be allowed.

2. Claim 4 was rejected under 35 U.S.C. § 103(a) over Diana in view of Coe PCT Int’l Publication WO 01/36495. However, as explained above, Diana fails to disclose or suggest elements of applicants’ claimed invention. Coe does not provide what is missing from Diana. Thus, there is no disclosure or teaching in either Diana or Coe of applicants’ claimed invention.

Further, there is no disclosure or suggestion that any portions of the disclosures of those references should be combined to anticipate or render obvious applicants' claimed invention. Accordingly reconsideration and withdrawal of this rejection and allowance of claim 4 are respectfully requested.

New claim 23, which depends from claim 4, claims a process wherein the blend of claim 4 is molten and kneaded at a temperature less than 180°C. Neither Diana nor Coe discloses or teaches the blend claimed in claim 4 being molten and kneaded at a temperature less than 180°C. For at least this additional reason, claim 23 also should be allowed.

3. Claims 5-9 and 19-22 were rejected under 35 U.S.C. § 103(a) over Diana in view of Ueno. Claims 19 and 22 have been cancelled. As explained above, Diana fails to disclose or suggest elements of applicants' claimed invention. Ueno does not provide what is missing from Diana. Thus, there is no disclosure or suggestion in either Diana or Ueno of applicants' claimed invention. Further, there is no disclosure or suggestion that any portions of the disclosures of those references should be combined to anticipate or render obvious applicants' claimed invention. Accordingly reconsideration and withdrawal of this rejection and allowance of claim 4 are respectfully requested.

Furthermore, new claim 24, which depends from claim 1, claims a composition not containing glass fiber. Neither Diana nor Coe explicitly discloses or teaches the absence of glass fiber, and Ueno explicitly requires that glass fiber be used to reinforce a propylene composition. This is another reason why new claim 24 and amended claims 20 and 21 dependent therefrom should be allowed.

For at least the foregoing reasons, allowance of all claims 1-9, 20, 21, 23 and 24 is respectfully requested. The PTO is hereby authorized to charge or credit any necessary fees to Deposit Account No. 19-4293. Should the Examiner deem that any further amendments would be desirable in placing this application in even better condition for issue, he is invited to telephone applicant's undersigned representative.

Respectfully submitted,

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